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Observations of the Phenomena of Jupiter's Satellites, and of the Transits of the Red Spot, Dark and Bright Spots, &c., at Bermerside Observatory, Halifax, during the Winter of 1894–1895. By Joseph Gledhill.

Day of Obs.	Satellite.	Phenomenon.	Phase.	G.M.T. of Observation.			*N. Almanac* Time.		
1894.				h	m	s	h	m	s
Nov. 11	(*a*) I.	Ec. D.	Fading	10	4	0	10	8	10
			Half gone (?)	10	5	0			
			Just gone	10	8	40			
14	(*b*) III.	Sh. I.	Internal contact	11	19	30	11	17	0
15	(*c*) II.	Ec. D.	Fading	9	34	7	9	35	21
			Bisection	9	35	34			
			Just gone	9	37	33			
17	(*d*) II.	Tr. E.	Internal contact	7	55	0	7	59	0
			Bisection	7	57	0			
			External contact	8	0	0			
Dec. 1	(*e*) II.	Tr. I.	External contact	9	56	30	9	57	0
			Bisection	9	58	10			
			Internal contact	10	0	0			
	II.	Sh. E.	Internal contact	11	28	0	11	29	0
			Bisection	11	29	30			
19	(*f*) II.	Tr. E.	Internal contact	6	6	0	6	10	0
			External contact	6	11	0			
	I.	Sh. I.	Internal contact	11	28	0	11	25	0
	I.	Tr. I.	External contact	11	30	0	11	30	0
			Internal contact	11	33	0			
20	(*g*) III.	Sh. I.	Internal contact	7	12	0	7	11	0
	(*h*) III.	Tr. I.	External contact	7	22	0	7	26	0
			Bisection	7	26	0			
			Internal contact	7	30	0			
	III.	Tr. E.	Bisection	10	10	0	10	14	0
	I.	Oc. R.	Bisection	10	51	0	10	53	0
			External contact	10	53	0			
	(*i*) I.	Ec. D.	Fading	8	33	30	8	36	2
			Bisection	8	35	0			
			Just gone	8	36	32			
27	(*j*) I.	Oc. D.	External contact	10	20	0	10	21	0
			Bisection	10	22	0			
			Just gone	10	23	20			

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Day of Obs.	Satellite.	Phenomenon.	Phase.	G.M.T. of Observation.			*N. Almanac* Time.		
				h	m	s	h	m	s
1894. Dec. 27	III.	Tr. I.	External contact	10	37	30	10	41	0
			Bisection	10	42	0			
			Internal contact	10	45	0			
	III.	Sh. I.	Internal contact	11	10	0	11	11	0
	I.	Ec. R.	First seen	12	42	42	12	42	43
			Bisection (?)	12	43	50			
			Full (?)	12	45	20			
29	I.	Ec. R.	First seen	7	11	14	7	11	24
			Bisection	7	12	0			
			Full	7	14	0			
1895. Jan. 2	(*k*) II.	Tr. I.	External contact	8	3	0	8	4	0
			Bisection	8	5	0			
			Internal contact	8	7	0			
	(*l*) II.	Sh. I.	Internal contact	8	38	0	8	37	0
4	(*m*) II.	Ec. R.	First seen	6	12	44	6	13	18
			Bisection	6	14	0			
			Full	6	16	0			
	I.	Tr. I.	External contact	9	20	0	9	23	0
			Bisection	9	22	0			
			Internal contact	9	23	30			
	(*n*) I.	Sh. I.	Internal contact	9	41	30	9	43	0
	I.	Tr. E.	Internal contact	11	42	0	11	39	0
			External contact	11	45	0			
5	(*o*) I.	Oc. D.	Last seen	6	32	0	6	31	0
	(*p*) I.	Ec. R.	First seen	9	5	15	9	6	22
21	(*q*) I.	Ec. R.	First seen	7	25	12	7	25	36
			Bisection	7	27	0			
			Full	7	29	0			
	III.	Oc. D.	External contact	10	0	0	10	5	0
			Bisection	10	3	30			
			Just gone	10	7	45			
25	(*r*) III.	Sh. E.	Internal contact	6	0	0	6	5	0
			Bisection	6	2	0			
	II.	Oc. D.	External contact	9	48	30	9	49	0
			Bisection	9	50	30			
			Just gone	9	53	0			
28	(*s*) I.	Oc. D.	External contact	6	15	30	6	15	0
			Just gone	6	18	0			

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Day of Obs.	Satellite.	Phenomenon.	Phase.	G.M.T. of Observation.	*N. Almanac* Time.
1895.				h m s	h m s
Jan. 28	I.	Ec. R.	First seen	9 20 45	9 21 0
			Bisection	9 23 0	
			Full	9 25 0	
Feb. 4	I.	Oc. D.	External contact	8 1 0	8 3 0
			Bisection	8 2 30	
			Just gone	8 4 30	
8	(*t*) III.	Tr. I.	External contact	7 1 0	7 0 0
			Bisection	7 3 0	
			Internal contact	7 6 0	
	III.	Tr. E.	External contact	9 51 0	9 51 0
	III.	Sh. I.	Internal contact	11 10 0	11 8 0
11	(*u*) IV.	Sh. E.	Internal contact	5 58 0	6 8 0
	(*v*) I.	Oc. D.	External contact	9 50 30	9 52 0
			Bisection	9 52 0	
			Just gone	9 55 20	
12	(*w*) I.	Tr. I.	External contact	7 9 30	7 8 0
			Bisection	7 12 0	
			Internal contact	7 13 30	
	I.	Sh. I.	Internal contact	8 15 0	8 14 0
	II.	Ec. R.	First seen	8 26 28	8 27 44
			Bisection	8 28 0	
			Full	8 31 0	
	I.	Tr. E.	Internal contact	9 22 0	9 25 0
			Bisection	9 24 0	
			External contact	9 26 30	
	(*x*) I.	Sh. E.	External contact	10 27 0	10 31 0
			Bisection	10 29 0	
13	(*y*) I.	Ec. R.	First seen	7 40 54	7 40 56
			Bisection	7 42 30	
			Full	7 46 0	
20	(*z*) I.	Oc. D.	External contact	6 9 10	6 11 0
			Bisection	6 11 0	
			Just gone	6 12 20	
	(1) I.	Ec. R.	First seen	9 36 20	9 36 36
			Bisection	9 38 0	
			Full	9 42 0	
21	II.	Sh. E.	Internal contact	5 35 0	5 40 0
			Bisection	5 37 0	

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Day of Obs.	Satellite.	Phenomenon.	Phase.	G.M.T. of Observation.	*N. Almanac* Time.
1895.				h m s	h m s
Feb. 21	I.	Tr. E.	Internal contact	5 39 0	5 43 0
			Bisection	5 41 30	
			External contact	5 42 40	
	(2) I.	Sh. E.	Internal contact	6 52 0	6 55 0
26	(3) II.	Oc. D.	External contact	8 34 40	8 36 0
			Bisection	8 37 0	
			Just gone	8 38 50	
	III.	Ec. D.	Fading	8 57 0	9 4 7
			Bisection	8 59 40	
			Just gone	9 5 21	
	I.	Tr. I.	External contact	10 51 7	10 50 0
			Bisection	10 52 40	
			Internal contact	10 54 20	
	(4) III.	Ec. R.	First seen	11 54 23	11 56 34
			Bisection	11 57 0	
			Full	11 59 0	
Mar. 1	(5) I.	Ec. R.	First seen	6 1 7	6 1 18
			Bisection	6 3 0	
			Full	6 5 30	
5	III.	Oc. D.	External contact	7 49 20	7 53 0
			Bisection	7 53 0	
			Just gone	7 55 50	
7	I.	Tr. E.	Internal contact	9 24 20	9 27 0
			Bisection	9 26 0	
			External contact	9 27 50	
16	(6) II.	Ec. R.	First seen	8 6 9	8 7 6
			Bisection	8 8 0	
			Full	8 10 30	
	(7) III.	Sh. E.	Internal contact	10 9 0	10 12 0
21	(8) II.	Tr. I.	External contact	10 54 0	10 59 0
			Bisection	10 56 0	
			Internal contact	10 58 0	
	(9) I.	Tr. I.	External contact	11 2 0	10 59 0
			Bisection	11 2 30	
			Internal contact	11 5 0	
April 7	I.	Ec. R.	First seen	10 8 38	10 8 50
			Bisection	10 10 0	
			Full	10 12 0	

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Day of Obs.	Satellite.	Phenomenon.	Phase.	G.M.T. of Observation.	*N. Almanac* Time.
1895.				h m s	h m s
April 10	(10) IV.	Oc. D.	External contact	7 52 0	7 55 0
			Bisection	7 56 to $8^{\rm h}$	
			Just gone	8 5 0	
	III.	Ec. D.	Fading	9 3 0	9 6 51
			Bisection	9 6 0	
			Just gone	9 8 8	
	(11) IV.	Oc. R.	Bisection	9 45 0	9 48 0
			External contact	9 48 0	
14	(12) I.	Oc. D.	External contact	8 36 30	8 37 0
			Bisection	8 38 0	
			Just gone	8 39 50	
15	(13) I.	Tr. E.	External contact	8 $5^{\rm m}$ to $6^{\rm m}$	8 6 0
	II.	Tr. I.	External contact	8 21 0	8 25 0
			Internal contact	8 24 0	
May 8	I.	Tr. E.	Internal contact	8 28 30	8 34 0
			External contact	8 33 0	

Notes.

(*a*) Violent motion. (*b*) Much boiling; shadow not seen till nearly quite on disc. (*c*) Poor definition; high wind; some cloud. (*d*) Planet low. Bad definition. (*e*) Bad definition. (*f*) Planet low. Poor definition. (*g*) Planet low; much motion. (*h*) A difficult observation, the satellite being not far from the South pole of *Jupiter*. The satellite became invisible before $7^{\rm h}\ 40^{\rm m}$. (*i*) Satellite entered shadow very close to planet. (*j*) Fair definition to-night. (*k*) Often clouded; much motion. (*l*) Much cloud passing. Satellite invisible at $8^{\rm h}\ 20^{\rm m}$. (*m*) Violent motion. (*n*) Much motion. (*o*) Much cloud. (*p*) Definition bad. (*q*) Wind; showers of snow. (*r*) Bad definition. (*s*) Much cloud; hazy. (*t*) Definition not good; misty. (*u*) Good definition. A difficult observation owing to shadow being near South pole of *Jupiter*. (*v*) Definition bad. (*w*) Good definition. Satellite I., in transit, became invisible at about $8^{\rm h}$; not seen again till $9^{\rm h}\ 15^{\rm m}$. (*x*) Much motion. (*y*) Very misty. (*z*) Good definition. Very misty. (1) Cloudy. (2) Definition not good. (3) Poor definition. (4) Very bad definition. (5) In early twilight. (6) Bad definition. (7) Much motion. (8) Planet low in W. Poor definition. (9) Bad sky. (10) Much boiling. (11) Bad definition. (12) Bad definition. (13) Violent motion.

Some Transits of Dark Spots on the Dark Belt below (N) Jupiter's Equator.

1. A dark spot which passed about $3\frac{1}{2}^{\rm h}$ before the zero meridian.

Observations.—1894 Nov. 15: $3^{\rm h}\ 21^{\rm m}$ before the zero meridian. Nov. 17: $3^{\rm h}\ 22^{\rm m}$. Dec. 18: $3^{\rm h}\ 26^{\rm m}$. 1895 Jan. 2: $3^{\rm h}\ 29^{\rm m}$; much motion. Jan. 26: $3^{\rm h}\ 30^{\rm m}$; good. Jan. 21: $3^{\rm h}\ 34^{\rm m}$; very